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ABSTRACT

This report describes a research project designed to investigate the relationship between perceived organizational culture and the current general level of Internet self-efficacy as well as with two sub-categories of expertise: use of course management shell software and Web authoring software. The perceived organizational dimension of "employee focus" was positively correlated with the three technology measures whereas the perceived organizational dimension of "results focus" was negatively correlated with these three measures. Although the findings are mitigated due to the small sample size, they do correspond with a general perception within academic institutions that staff are more likely to be innovative when there is support for their efforts than when there is simply pressure to produce. Overall, the findings of this research project suggest that organizations moving online need to be cognizant of the effect of different organizational climates on their staff and should take this into account when planning their change management strategies. (Contains 12 references.) (Author)

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Perceived Organizational Climate and Internet Self-Efficacy: Identifying the Best Climate to Promote E-Learning

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Abstract

This report describes a research project designed to investigate the relationship between perceived organizational culture and the current general level of Internet self-efficacy as well as with two sub-categories of expertise: use of course management shell software and Web authoring software. The perceived organizational dimension of "employee focus" was positively correlated with the three technology measures whereas the perceived organizational dimension of "results focus" was negatively correlated with these three measures. Although the findings are mitigated due to the small sample size, they do correspond with a general perception within academic institutions that staff are more likely to be innovative when there is support for their efforts than when there is simply pressure to produce. Overall, the findings of this research project suggest that organizations moving online need to be cognizant of the effect of different organizational climates on their staff and should take this into account when planning their change management strategies.

Introduction

There is a burgeoning literature on topics related to the integration of Information Technology (IT) within organizations. Two disciplines that have shown a particularly strong interest in this topic are Business and Education. The impact of these technological developments on institutions is putting increasing stress on almost all aspects of their operation (Isaacs, 1999; McMurray, 2001). In many cases it seems to require a complete rethinking of an organization's goals and functions. In some cases it may recommend a complete reorganization of an institution or company. In other cases the change may be less dramatic but still important. This appears to be the case within educational institutions, where the core purpose of the institution appears to remain relatively intact, but where there are new opportunities for how we may best provide a dynamic and relevant environment for our students. Wallace (1999) has provided a timely review on various psychological issues related to the use of the Internet. At the same time there must be increasing attention placed on some of the difficulties of developing online instruction. Factors such as reliable technology, support for faculty, and the familiarity of the system among students are commonly mentioned (Auter, P. J. & Hanna, M. S., 1996; Rogers, C. S. & Laws, P., 1996).

Background

The business literature consistently emphasizes the importance of the organizational culture in understanding a corporation's effectiveness. The ideas appear to apply equally well to any large organization, including that of a university. Quinn and Rohrbaugh (1983), Quinn et al. (1996) have developed a theoretical model for describing such a culture, called the Competing Values Framework (CVF), sometimes also referred to as the Competing Values Model (CVM). The model was originally derived empirically from multivariate analysis of response data. Howard (1998) has recently provided an important psychometric validation of this model. Dastmalchian (1999) has broadened the idea to provide a

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comparison of perceived emphasis with desired emphasis and although the model was originally designed to describe business organizations, Barath (1998) has extended the sphere of application to that of school jurisdictions.

Basically the CVF postulates a three-dimensional bipolar model for organizational culture. The three dimensions are labelled (control & stability)/flexibility, internal/external focus and means/end emphasis. Each of these three dimensions is considered to be orthogonal to the others. The model is sometimes simplified to incorporate just the first two-dimensions (Dastmalchian, 1999). These two dimensions divide the organizational culture into four quadrants, each representing a set of core values (Figure 1).

Figure 1 Perceived Organizational Cultures

Usually this model is then used as a framework for plotting the institutional profile, obtained by averaging the data from the individuals responding to the study. However in the present case, it was decided to treat each individual profile on its own, and examine how well that profile corresponds to data obtained on Internet self-efficacy. It is worth noting that the measure for each quadrant is based on the "perceived" emphasis of that characteristic by a respondent within the culture, rather than as some form of judgement about the culture by an external assessment.

Data Collection

The approach taken in this project was to create two survey instruments, based on the available research literature on organizational culture and on computer self-efficacy, and administer this to the staff of a small university. In addition to a series of Likert scale items, a number of open-ended questions were added that asked the respondent to comment of their present activities and future plans within the context of preparing for online instructional materials. The present report presents an analysis of the CVF questionnaire and the Likert items from the Internet questionnaire.

Sampling

The original sample involved two organizational departments. Participation in the study was voluntary. A total of 16 people were approached in one department and 12 in the other. Of these 28 potential respondents, a total of 16 (57%) filled in at least one of the two survey forms. The study was not designed to compare departmentss, but to examine individual profiles, so all of the data were either analyzed at an individual level or were combined for a global analysis. Notices were sent to other departments, informing them of the research project and inviting their participation. This resulted in an additional 6 subjects responding from 4 different departments.

Instruments

The first questionnaire, based on the concept of Internet self-efficacy, was designed specifically for this study. Many of the items were originally used in previous research studies (Eastin & LaRose, 2000; Kelley, Higgins and Compeau, 1999), but were some items modified to provide information directly related to the use of the Internet and the development of online instructional materials. The second questionnaire was obtained from Dastmalchian (1999) and was used without modification. An online version of each questionnaire was also developed and everyone was given the option of using either the hardcopy or online version. The online version was completed by 16 respondents whereas 6 selected the hardcopy form.

The organizational culture exercise asked respondents to distribute 100 "points" across 4 descriptions of hypothetical organizations, depending on how close each description was to their perceived situation. For example, if a subject felt that the university was very much like this description: "Organization A is a very personal place. It is like an extended family. People seem to share a lot of themselves", then they would allocate most of the 100 points to that description. Similar descriptions were provided for organizational cultures similar to the other three quadrants of the CVF. This exercise was repeated a total of 6 times with different aspects of the organization (e.g. Dominant Characteristics, Organizational Leader, Organizational Glue, Organizational Climate, Criteria of Success, and Management Style) being profiled. The scores for each of the four organizational climates were then totalled. Thus, a total of 600 points were distributed over 4 organizational climates, with the average value being 150 if all four climates were rated as equally valid.

The Internet questionnaire contained two sets of questions that asked respondents to indicate on a 7-point scale the degree of experience they had with various course management shell programs (e.g. Learning Space, BlackBoard, WebCT) and with different Web authoring tools (e.g. FrontPage, HomePage, Dreamweaver, GoLive, Fusion). In addition a 17 item (each item a 7-point scale) Internet self-efficacy instrument was included in the questionnaire. Average ratings for each subject on each of these three scales were computed.

Analysis

The small sample size ruled out the use of inferential statistics, however there is merit in reviewing the descriptive statistics. Correlations were computed for each of the four competing value framework dimensions with the three indices of Internet experience (Figure 2).

	Shell Management	Web Authoring	Internet Self-efficacy
Clan/Employee	0.43	0.08	0.41
Adhocracy/Entrepreneurial	-0.03	-0.05	0.05
Hierarchy	0.02	0.18	-0.10
Market/Results	-0.45	-0.22	-0.32

Figure 2 Correlation Matrix of CVF Scores With Internet Experience

The correlation between the perception of an Employee Focused Culture and course management shell experience (Learning Space, BlackBoard, WebCT) was 0.43. Similarly, the correlation between a perceived Results Culture and this same experiential dimension was -0.45. The remaining two organizational culture dimensions did not exhibit large correlations with the experiential variables. Thus the principal finding of the research project was the indication of a strong positive relationship between a perception of being in an

Clan/Employee Focus Culture and having learned to use course management shell software, whereas there was an equally strong negative relationship between a perception of being in a Market/Results Culture and this experiential dimension.

Figures 3 and 4 show the radar graphs for two individuals with high scores on either perceived "Clan/Employee Focus Culture" or "Results Focus Culture". These are both fairly typical of the graphs for people scoring high on these two dimensions. Note that these diagrams emphasize the value for each of the four CVF quadrants, rather than values for the bipolar dimensions outlined in Figure 1. That is, 1 = Clan/Employee Focused Culture; 2 = Adhocracy/Etrepreneurial Culture; 3 = Market/Results Culture; 4 = Hierarchy Culture.

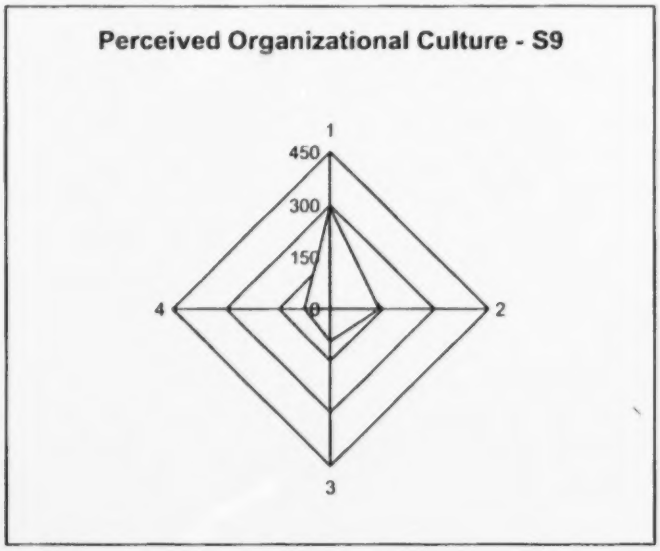

Figure 3

In addition to observing that the highest value is for dimension 1, it is worth noting that values for dimensions 2, 3 and 4 are all under 150. The instrument produces an ipsative measure, which means that, in this case, a total of 600 points were distributed among the four dimensions. An allocation of a large number of points to one dimension results in fewer points available for distribution among the remaining dimensions. If all four dimensions were to receive the same weighting, then all scores would be 150. In the case of Subject 9, the Clan/Employee Focus dimension has a weighting of almost 300 and all of the remaining three dimensions have values less than 150. Recall that the computing of the three scales related to Internet expertise was simply the average rating of a number of 7 point Likert questions. This individual indicated an average score of 6.7 for experience with course management shell software, 4.0 for experience with web authoring software, and 6.6 on the Internet self-efficacy variable. The latter two scores were the highest scores among the group that replied to the survey. This is consistent with the correlations, namely a high score on "Clan/Employee Focused Culture" and a low score on "Market/Results Culture" both correspond to a high scores on experience with course management shell software, experience with web authoring software and Internet self-efficacy.

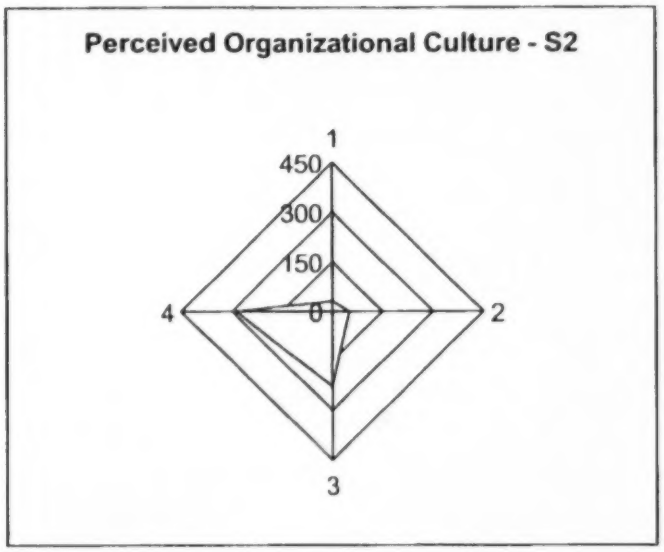

Figure 4

The graph in Figure 4 is also typical of those for people who gave the highest value to dimension 4 – a perception that the organizational climate has a "Results Focus". In this case, the third dimension, "Hierarchical Structure" also tended to receive a fairly high score. This individual had an average score of 0.67 for experience with course management shell software, 0 for experience with web authoring software, and an average score of 4.5 (out of 7) on an Internet self-efficacy variable, which was below the overall average for the group that replied to the survey. That is, a high score on "Results Focus" corresponds to low scores on the three Internet related variables.

Discussion and Conclusions

The results are suggestive of a strong relationship between perceived organizational climate and involvement in utilizing the Internet. Both a general index of Internet self-efficacy as well as two measures of experience with Web support software were shown to be related to this organizational climate, with the dimension of "Employee Focused" being positively related to use of the Internet and the dimension of "Results Focused" being negatively related to use of the Internet. While much attention has been given to specific support strategies to aid in helping faculty become more involved with e-learning, one should not lose site of the impact of the overall perceived organizational climate as a contributing factor to the incorporation of Internet related activities in instructional activities. In general, it appears that an organizational climate that is "Employee Focused" is more likely to result in activities that involve innovation and exploration, such as the learning of new Web-related skills. Keeping in mind that the entire field of Web-based educational courseware development and delivery is presently in a state of rapid evolution, such a supportive organizational climate is important for staff members to continue to play with new ideas that will eventually impact on the overall effectiveness of the institution.

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